

REMARKS

Claims 1-17 are currently pending in this application. Claims 9-13 have been withdrawn but remain in the application for rejoinder if the catalyst claims are found to be patentable. By this paper, claims 1 and 5 have been amended.

In the Office Action, claim 1 was objected to because of informalities in line 2. By this paper, those informalities have been corrected. Claim 5 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite. By this paper, claim 5 has been amended to indicate that the elements selected from the group consisting of Group IIA, IIIB, IVB, VB, VIB and VIIB are further elements in the catalyst and the reference to an element from Group VIII has been deleted from claim 5. Applicants submit that these changes clarify the language of the claims and overcome the objections of the Examiner.

In the Office Action, claims 1-8 and 14-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Frayer et al. (4,133,777).

The present invention is directed to a shaped catalyst containing a catalytically active component selected from the group consisting of ruthenium, iron, cobalt and nickel. The catalyst has a particular cross-sectional shape comprising three protrusions. The cross section of the catalyst occupies the space encompassed by the outer edges of six circles around a central circle, each of the six circles touching two neighboring circles while three alternating circles are equidistant to the central circle and may be attached to the central circle. The shape excludes the space occupied by the three remaining outer circles but does include the six interstitial regions. The three remaining alternating circles have diameters in the range of between 0.74 and 1.3 times the diameter of the central circle. As set forth in the specification on page 5, beginning at line 25, it has surprisingly been found that the specifically shaped catalyst particles of the present invention offer unexpected and sizable advantages compared with conventional "trilobal" catalyst particles. These results are demonstrated by the examples wherein catalysts according to the invention were compared to a conventional trilobe-shaped catalyst.

The Frayer et al. reference is directed to a hydrodesulfurization catalyst whose surface is provided with a plurality of alternating longitudinal grooves and protrusions. However, the Frayer reference does not disclose nor suggest the particular cross-sectional shape claimed by the present application. Nor does it suggest that the particular shape of the current invention would have superior characteristics when compared to conventional trilobe shaped catalysts.

Accordingly, Applicants submit that the claims as currently presented would not have been obvious in view of Frayer et al.

In the Office Action, claims 1-8 and 14-17 were rejected under 35 U.S.C. 102(b) as being anticipated by JP '445 (JP 55119445). Applicants respectfully traverse this rejection. There is no specific teaching nor suggestion of the unique cross-sectional shape of the claimed catalyst of this invention. In particular, there is no teaching that the area occupied by three of the six circles surrounding the central circle is subtracted from the shape of the catalyst but that the six interstitial areas are included. Accordingly, Applicants submit that the claims of the application are not anticipated by JP '445.

In view of the foregoing, Applicants submit that all of the claims are now in condition for allowance and favorable consideration by the Examiner is requested. Should the Examiner find any impediment to the prompt allowance of the claims which can be corrected by telephone interview with the undersigned, the Examiner is requested to initiate such an interview.

Respectfully submitted,
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